



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

USA

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/049,633	07/08/2002	Wilhelm Ansorge	100564-00103	1909
6449	7590	03/05/2004	EXAMINER	
ROTHWELL, FIGG, ERNST & MANBECK, P.C. 1425 K STREET, N.W. SUITE 800 WASHINGTON, DC 20005			RILEY, JEZIA	
			ART UNIT	PAPER NUMBER
			1637	

DATE MAILED: 03/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.	ANSORGE ET AL.
10/049,633	
Examiner Jezia Riley	Art Unit 1637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on 24 February 2004.  
2a) This action is **FINAL**.                    2b) This action is non-final.  
3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 1-43 is/are pending in the application.  
4a) Of the above claim(s) 21-43 is/are withdrawn from consideration.  
5) Claim(s) \_\_\_\_\_ is/are allowed.  
6) Claim(s) 1-8 and 10-20 is/are rejected.  
7) Claim(s) 9 is/are objected to.  
8) Claim(s) 1-43 are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.  
10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) All    b) Some \* c) None of:  
1. Certified copies of the priority documents have been received.  
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) Notice of References Cited (PTO-892)  
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) Notice of Informal Patent Application (PTO-152)  
6) Other: \_\_\_\_\_.

**DETAILED ACTION**

1. Applicant's election without traverse of Group I (claims 1-20) on 2/24/2004 is acknowledged.

***Claim Objections***

2. Claim 10 is objected to because of the following informalities: In line 8 it says "Y denotes  $-N=CH-(CH_2)m-CH=N-$ ,  $-NH-CH_2-(CH_2)m-CH_2-NR_1$ ,  $-NR_1$ ". The word "or" should be added before  $-NR_1$ . Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 4, 16-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4 is vague and indefinite because it is unclear what is C1 in line 7, where it says "R denotes  $(CH_2)_n-C_1$ ".

Claims 16-20 provide for the use of a solid phase, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process

applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claims 16-20 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 3-8, 10-20, are rejected under 35 U.S.C. 102(b) as being anticipated by Guo et al. (Nucleic Acids Research 1994, Vol. 22, No.24, pp. 5456-5465).

Guo et al. discloses direct fluorescence analysis of genetic polymorphisms by hybridization with oligonucleotides arrays on glass supports. In page 5449 it is disclosed that the surface derivatization is performed in three steps: a) a reaction of the glass surface with aminopropyltrimethoxysilane to give amino derivatized surface; b) coupling of the amino groups with excess p-phenylenediisothiocyanate to convert the amino groups to amino-reactive phenylisothiocyanate groups; and c) coupling of 5' amino-modified oligonucleotide to these amino-reactive groups to yield the surface bound

oligonucleotides. In all experiments the oligonucleotide probe is attached to the surface at the 5' terminus. Figure 1 shows the diagram of linker chemistry employed for attachment of probes to glass supports. Which is viewed to be inclusive of formula (III) of instant claim 10. Pages 5459, 5462 and figure 4 disclose the synthesis of different probes (see Tabel1). The probes were applied in duplicate on derivatized glass surfaces. And that individual surface of one molecule is 1000Åx1000Å. Which is viewed to be inclusive of instant claims 14, 15, and inherently of inclusive of instant claim 12 (see also page 5464).

6. Claims 1-8, 10-20, are rejected under 35 U.S.C. 102(b) as being anticipated by Varma (US 5,622,826).

Varma discloses methods for immobilizing molecules on surfaces of platinum. The method uses an isocyanate or isothiocyanate molecule which is reacted with the platinum to produce immobilized reactive moieties. These moieties are reacted with the molecule to be immobilized.

Molecules bearing an amino group or functionality are immobilized on platinum surfaces by first reacting such surfaces with either an isocyanate or an isothiocyanate to produce immobilized reactive moieties on the surface. These reactive moieties are then reacted with the molecule to form a covalent bond. Preferably, the platinum surface is reacted with a diisothiocyanate such as 1,4-phenylene diisothiocyanate. (Figures and Summary). Col. 3, 12-14 discloses that glass surface (silicon dioxide) can be used.

Col.7 discloses the procedure of the preparation of said methods. Lines 49-59, discloses that the probes are spotted on a surface typically 300nl per spot.

In order to determine whether hybridization was occurring specifically to target DNAs having complementary nucleotide sequences, two different types of oligonucleotides were used as probes. In certain positions on the surface, probes were attached that had nucleotide sequences exactly complementary to targets. At other positions, probes were attached which contained a one nucleotide mismatch. Which is viewed to be inclusive of instant claim 14 (see experiment 2).

7. Claim 9 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The PTO-1449 received on 2/25/2002 is missing. A copy is respectfully requested.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jezia Riley whose telephone number is 571-272-0786. The examiner can normally be reached on 9:30AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Benzion can be reached on 571-272-0782. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thursday, March 04, 2004



JEZIA RILEY  
PRIMARY EXAMINER